

**CLAIM(S)**

What is claimed is :

5 A pigment dispersant useful in a cathodic electrocoating composition comprising the reaction product of (1) an adduct of an alkyl aminoalkyl amine and an alkylene carbonate; and (2) an organic acid to form a tertiary amine salt and (3) an epoxy resin being reacted with the amine salt to form a quaternary ammonium salt.

10                    2. The pigment dispersant of claim 1 in which the alkyl  
aminoalkyl amine and the alkylene carbonate are reacted in an  
approximate equal molar amount.

3. The pigment dispersant of claim 2 in which the alkylene carbonate is selected from the group consisting of a five-membered ring carbonate or six-membered ring carbonate.

4. The pigment dispersant of claim 3 in which the alkylene carbonate is propylene carbonate.

5. The pigment dispersant of claim 1 in which the alkyl aminoalkyl amine is an alkylaminopropyl amine.

6. The pigment dispersant of claim 5 in which the amine is dimethyl aminopropylamine.

7. The pigment dispersant of claim 1 in which the acid is an organic acid selected from the group consisting of lactic acid, acetic acid and formic acid.

8. The pigment dispersant of claim 7 in which the organic acid is lactic acid.

9. The pigment dispersant of claim 1 in which the epoxy resin  
35 is the diglycidyl ether of bisphenol A having an epoxide equivalent weight  
of 100 to 1,000.

10. The pigment dispersant of claim 1 in which the alkylene carbonate is propylene carbonate, the alkyl aminoalkyl amine is

dimethylaminopropylamine, the organic acid is lactic acid, and the epoxy resin is the diglycidyl ether of bisphenol A having an epoxide equivalent weight of 100-1,000 acid wherein the alkyl aminoalkyl amine and the alkylene carbonate are reacted stoichiometrically.

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11. A process for forming a pigment dispersant which comprises
- 10        reacting an alkylene aminoalkyl amine and an alkylene carbonate in equal molar amounts at about 75-100°C for about 30 to 180 minutes to form an adduct,
- reacting the adduct with an organic acid at about 75-115°C for about 30-180 minutes to form a tertiary amine salt;
- 15        reacting the tertiary amine salt with an epoxy resin having an epoxide equivalent weight of about 100-1,000 at about 75-115°C for about 30-180 minutes to form a quaternary ammonium salt.
- 20        12. An aqueous cathodic electrocoating composition comprising an epoxy amine resin, a blocked polyisocyanate crosslinking agent, pigment, and the pigment dispersant of claim 1.